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Citation: 5 Minn. J. Global Trade 357 1996



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## Notes

### Toward a Rational Harvest: The United Nations Agreement on Straddling Fish Stocks and Highly Migratory Species

Mark Christopherson

The food resources of the world's oceans, once thought limitless,<sup>1</sup> are showing the effects of an unregulated harvest.<sup>2</sup> Increased fishing of overexploited stocks has resulted in diminished high seas fisheries world-wide.<sup>3</sup> This relative paucity of ocean bounty has led to a scramble for remaining resources, which has created inevitable, often violent, conflict on the open sea.<sup>4</sup> As a result, coastal states and other fishing countries have advocated a new regime of international cooperation.

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1. Hugo Grotius, for example, argued in the seventeenth century that one cannot have a property right in the sea, in part because it is inexhaustible. "For the same reasons the sea is common to all, because it is so limitless that it cannot become a possession of any one, and because it is adapted for the use of all, whether we consider it from the point of view of navigation or of fisheries." HUGO GROTIIUS, *THE FREEDOM OF THE SEAS* 28 (Ralph Van Deman Magoffin, trans., 1916).

2. The United Nation's Food and Agricultural Organization (FAO) has reported a steady decline in marine fisheries catches since 1989. *Some High Seas Fisheries Aspects Relating to Straddling Fish Stocks and Highly Migratory Fish Stocks*, U.N. Food & Agricultural Organization, at 2, U.N. Doc. A/CONF.164/INF/4 (1993) [hereinafter *High Seas Fisheries Aspects*]. Total catches peaked at 86 million metric tons in 1989, and decreased during each of the following three years to 82.5 million tons in 1992. *Id.* The increases that did occur in world catch from 1970 to 1989 are mitigated to some extent, in part because less valuable commercial species were exploited as higher value stocks declined. U.N. FOOD AND AGRICULTURAL ORGANIZATION, *FISHERIES TECHNICAL PAPER* No. 335, *REVIEW OF THE STATE OF WORLD MARINE FISHERY RESOURCES*, 7-9 (1994). The number of countries fishing these stocks also increased by 25%. *Id.* at 7.

3. *High Seas Fisheries Aspects*, *supra* note 2, at 9.

4. Nearly 30 separate fishing conflicts arose in 1993 alone. "The catalyst for the disputes is that the amounts of fish caught appear to be declining in the past few years, following four decades of explosive growth." Bronwen Maddox, *Fleets Fight in Over-Fished Waters: Fishing Disputes Have Risen Up the Diplomatic Agenda*, *FIN. TIMES*, Aug. 30, 1994, at 4. Examples of violent conflict include: the sinking of a Taiwanese vessel suspected of illegal fishing by an Argentinean gunboat; fishermen's attack on Russian trawler near Scotland —

On December 4, 1995, the United Nations' General Assembly introduced an international agreement to protect vulnerable fish stocks (the Agreement).<sup>5</sup> The Agreement implements some provisions of existing international law and proposes a conservation scheme to promote rational harvests in high seas fisheries. It introduces enforcement measures on an unprecedented scale and attempts to foster new cooperation among fishing nations.

This Note examines the Agreement's effectiveness as a regulatory scheme. Part I explores the plight of world fisheries and the unilateral efforts of coastal states to address resource depletion. Part II discusses international attempts to regulate high seas fisheries. Part III details obligations that the Agreement imposes. Part IV analyzes the Agreement's effectiveness in light of past international conservation failures. This Note concludes that although the Agreement duplicates many aspects of ineffective regulatory schemes, current modifications will enable it to guide fishing nations toward more rational harvests.

## I. THE FAILURE OF UNILATERAL CONSERVATION

The majority of important fish stocks lie within the jurisdictional waters of coastal states.<sup>6</sup> In certain regions, however, fish stocks "straddle" these jurisdictional lines, thus making a unified conservation effort difficult. Other species migrate through jurisdictional areas and into the high seas,<sup>7</sup> where freedom of fishing has allowed indiscriminate landings by industry fleets.<sup>8</sup> Declining catches for all three types of stock have demonstrated the inefficacy of unilateral preservation efforts.

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£250,000 of cod destroyed; on-going violent clashes between China and Taiwan, with some deaths reported. *Id.*

5. *Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Seas of 10 December 1982 Relating to the Conservation and Management of Straddling Stocks and Highly Migratory Fish Stocks*, Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, 6th Sess., U.N. Doc. A/CONF.164/37 (1995) [hereinafter *The Agreement*].

6. PETER WEBER, *ABANDONED SEAS: REVERSING THE DECLINE OF THE OCEANS* 11-14 (1993) (WorldWatch Paper No. 116.).

7. High Seas include "that portion of ocean which is beyond the territorial seas of any country." BLACK'S LAW DICTIONARY 502 (6th ed. 1991).

8. See *infra* part I.C.2.

A. COASTAL STATE JURISDICTION: THE EXPANSION OF THE TERRITORIAL SEA

At the close of the fifteenth century, many coastal states had claimed exclusive jurisdiction over surrounding waters.<sup>9</sup> By the 1700s, their authority generally extended a distance of three miles offshore, the range a typical cannon shot.<sup>10</sup> This common measure of a state's territorial sea was the general rule until 1945, when the United States declared its intention to create conservation zones in surrounding areas of high seas.<sup>11</sup> While the declaration was not intended to extend U.S. jurisdiction, it was widely misinterpreted by other states and precipitated a number of unilateral extensions.<sup>12</sup> By 1958, sixty-three of the eighty-six nations participating in the Geneva Conference on the Law of the Sea claimed jurisdictions greater than three miles.<sup>13</sup> In 1966, even the United States extended its jurisdiction to twelve miles off its coasts and prohibited access by some foreign fishing vessels.<sup>14</sup>

Despite the exclusion of foreign fishing in its waters, by 1976 nearly seventy percent of all fish caught off the U.S. coast were taken by foreign fishermen.<sup>15</sup> In response, Congress established a 200 mile Fisheries Conservation Zone (FCZ) which subjected domestic and foreign vessels to U.S. jurisdiction.<sup>16</sup> In

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9. FRANCIS CHRISTY & ANTHONY SCOTT, *THE COMMON WEALTH IN OCEAN FISHERIES: SOME PROBLEMS OF GROWTH AND ECONOMIC ALLOCATION* 154-55 (1965). The extent of these claims depended largely on the results of wars or other conflicts where excessive claims were laid to rest. *Id.*

10. *Id.* at 157.

11. Proclamation No. 2667, 3 C.F.R. 68 (1943-1948) (hereinafter *Truman Proclamation*).

12. Later commentators insisted that the Truman Proclamation did not create an extension of jurisdiction, rather, it merely articulated an intent to negotiate with other nations for the establishment of bilateral conservation zones. See, e.g., ELDON V.C. GREENBERG, *Overview of Ocean Fisheries and Law, in SUSTAINABLE ENVIRONMENTAL LAW* 385 (1993).

13. CHRISTY & SCOTT, *supra* note 9, at 156.

14. Contiguous Fisheries Zone Act, Pub. L. No. 89-658, 80 Stat. 908 (1966) (repealed 1977). The Act created a nine-mile zone beyond the three mile territorial sea, in which foreign fishing was prohibited without express authorization. GREENBERG, *supra* note 12, at 386.

15. Warren G. Magnuson, *The Fishery Conservation and Management Act of 1976: First Step Toward Improved Management of Marine Fisheries*, 52 WASH. L. REV. 427, 431 (1977). From 1948 to 1973, the United States more than doubled its consumption of fish and fisheries products, yet U.S. landings remained relatively constant — 4.3 billion pounds in 1938 to 4.7 billion pounds in 1973. *Id.*

16. The Magnuson Act, 16 U.S.C. §§ 1801-57 (1992); 22 U.S.C. §§ 1972-73 (1992). As originally enacted, the Magnuson Act provided that, "[T]he United

1982, the United Nations Convention on the Law of the Sea (UNCLOS)<sup>17</sup> reflected the U.S. extension by adopting a 200 mile exclusive economic zone (EEZ).<sup>18</sup> Consequently, the 200 mile EEZ is now the international standard.<sup>19</sup>

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States shall exercise exclusive fishery management authority, in the manner provided for in this chapter, over the following: (1) All fish within the fishery conservation zone. . . . (3) All Continental Shelf fishery resources beyond the fishery conservation zone." 16 U.S.C. § 1812 (1976). Today the relevant section reads, "except as provided in section 1812 of this title [now a provision addressing highly migratory species] the United States claims, and will exercise in the manner provided for in this chapter, *sovereign* rights and exclusive fishery management authority over all fish, and all Continental Shelf fishery resources, within the exclusive economic zone." 16 U.S.C. § 1811 (1992) (emphasis added).

While the original Act did not exclude access by foreign fishers, later amendments created a preference for U.S. vessels. The Processor Preference Amendment, for example, created a preference for U.S. floating fish processors over foreign processors within the FCZ. Pub. L. No. 95-354, 92 Stat. 519 (1978).

17. *United Nations Conference on the Law of the Sea*, U.N. Doc. A/Conf.62/121 (1982), reprinted in 21 I.L.M. 1245 (1982) [hereinafter *UNCLOS*]. The Convention capped off fifteen years of work by the Third United Nations Conference on the Law of the Sea. *Id.*

The United States continues to operate under the Conventions adopted at the 1958 Conferences on the Law of the Sea (Geneva Conference). The Conventions establish the right for coastal states to regulate access to the territorial sea, but in contrast to UNCLOS, the extent of the state's jurisdiction is not established. The 1958 Conventions include: the Convention on the Territorial Sea and the Contiguous Zone; the Convention on the High Seas; the Convention on Fishing and Conservation of the Living Resources of the High Seas; and the Convention on the Continental Shelf. ELLEN HEY, *THE REGIME FOR THE EXPLOITATION OF TRANSBOUNDARY MARINE FISHERIES RESOURCES* 8-9 (1989). The Second United Nations Conference was held to determine the outer limit of the territorial sea but was unsuccessful. *Id.* at 9.

18. *UNCLOS*, *supra* note 17, art. 57, at 1280. Within the EEZ, the coastal state has:

(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds;

(b) jurisdiction as provided for in the relevant provisions of this Convention with regard to:

....

(iii) the protection and preservation of the marine environment.

*Id.* at 1280, art. 56.

19. Although the United States has yet to become a party to UNCLOS, President Reagan changed the FCZ created by the Magnuson Act into an EEZ in 1983. Proclamation No. 5030, 3 C.F.R. 23 (1983). This had the effect of declaring U.S. "sovereignty" over all resources within the zone. GREENBERG, *supra* note 12, at 387. Since sovereignty was in effect reserved in the FCZ, this declaration had little practical impact. *Id.* at 387 n.90.

## B. PLIGHT OF WORLD FISHERIES GENERALLY

Unfortunately, the expansion of coastal state jurisdiction did little to mitigate the effects of overfishing. World fisheries today are severely stressed. All seventeen of the world's major fishing areas monitored by the Food and Agricultural Organization (FAO) have reached or exceeded their natural limits; nine are in serious decline.<sup>20</sup> Since 1975, stocks of breeding age Atlantic bluefin tuna have dropped ninety percent.<sup>21</sup> Atlantic cod populations near the Grand Banks<sup>22</sup> have fallen ninety-five percent over the past few years.<sup>23</sup> The Northwest Atlantic Fisheries Organization (NAFO), which manages ground fish<sup>24</sup> catches in this area, has stated that the stocks are "in the worst condition they have ever been."<sup>25</sup>

In the Pacific, catches of Pollack in the Bering Sea's "Donut Hole"<sup>26</sup> plummeted from nearly 1.4 million metric tons in 1989 to 10,000 metric tons in 1992.<sup>27</sup> The numbers of snappers and groupers in the Gulf of Mexico have declined by eighty-five percent, due at least in part to indiscriminate shrimp harvests.<sup>28</sup> In short, many of the world's traditional fishing stocks now threaten to drop below levels of viability.<sup>29</sup>

In response, some coastal nations have closed the endangered fisheries within their jurisdictional waters. Canada has

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20. WEBER, *supra* note 6, at 34.

21. Michael D. Lemonick, *Too Few Fish in the Sea: After Reaping the Oceans' Bounty with Careless Abandon, the World Struggles to Save an Irreplaceable Food Source*, TIME, Apr. 4, 1994, at 70.

22. The Grand Banks lie off the coast of Newfoundland, just outside Canadian jurisdictional waters. See U.N. FOOD AND AGRICULTURAL ORGANIZATION, FISHERIES TECHNICAL PAPER No. 337, WORLD REVIEW OF HIGHLY MIGRATORY SPECIES AND STRADDLING STOCKS 55 (1994).

23. Lemonick, *supra* note 21, at 70.

24. Ground fish or "demersal" stocks are those fish with a strong dependence on the bottom of the ocean. U.N. FOOD AND AGRICULTURAL ORGANIZATION, *supra* note 22, at 3.

25. NAFO, *quoted in High Seas Fisheries Aspects*, *supra* note 2, at 5.

26. See *infra* text accompanying notes 56 and 57.

27. United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, *Conservation and Management of Straddling Fish Stocks in the Bering Sea and the Sea of Okhotsk: Letter Submitted by the Delegations of the Russian Federation and the United States*, at 1, para. 3, U.N. Doc A/CONF.164/L.33 (1993) [hereinafter *U.N. Conference on Straddling Fish Stocks*].

28. Emily Smith & William C. Symonds, *Not 'So Many Fish in the Sea,'* BUS. WK., July 4, 1994, at 62.

29. In fact, all growth in world catches in the past decade derives from five "low-value" species not previously exploited for their commercial value. U.N. FOOD AND AGRICULTURAL ORGANIZATION, *supra* note 22, at 1.

prohibited all cod fishing in the Grand Banks.<sup>30</sup> In the fall of 1994, the United States closed fishing in the Georges Bank off the coast of Massachusetts.<sup>31</sup> Russia has imposed a fishing moratorium in the "Peanut Hole" in the Sea of Okhotsk.<sup>32</sup> Closing individual fisheries, however, has done little to curb the decline of straddling stocks and highly migratory species.

Much of the blame for these dwindling stocks may be traced to an overcapitalized fishing industry. From 1970 to 1990, the world's fishing fleet increased twice as fast as marine catches.<sup>33</sup> The United States alone had approximately sixty-four "factory trawlers" in 1990, accounting for a capital investment of over \$1.1 billion.<sup>34</sup> Advances in technology such as satellite navigational systems and sonar, which are used to pinpoint stocks, have further increased the capacity of the inflated world fleet.<sup>35</sup> The flow of capital from government subsidies has also stabilized and helped preserve this vastly inefficient industry.<sup>36</sup> This excessive capital has resulted in a bloated industry: in order to return to the 1970 rate of catch per vessel, at least thirty percent of the existing tonnage in the world's fleet would have to be re-

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30. Lemonick, *supra* note 21, at 70. Closing the Grand Banks has put nearly 30,000 people out of work. *Id.*

31. A *Long-Awaited Fishing Treaty*, CHI. TRIB., Aug. 14, 1995, at 8. These moves have decimated many towns dependent on the fishing industry, which imposes additional costs to governments in the form of lost tax revenues and direct aid payments designed to mitigate the economic damage. Massachusetts Governor William Weld, for example, pledged \$10 million in aid after the Georges Bank closed, and the Federal Commerce Department later announced an additional \$30 million aid package. Lemonick, *supra* note 21, at 70.

32. Jon K. Goltz, *The Sea of Okhotsk Peanut Hole: How the United Nations Draft Agreement on Straddling Stocks Might Preserve the Pollack Fishery*, 4 PAC. RIM L. & POL'Y J. 443, 443 (1995).

33. *High Seas Fisheries Aspects*, *supra* note 2, at 8.

34. GREENBERG, *supra* note 12, at 381. A factory trawler is an integrated fishing and processing/packaging vessel. Often over 350 feet in length, the trawlers tow large bag-like nets or "trawls" to capture fish at varying depths. Alternatively, it acts as a processing station for smaller ships that bring in the catch. For a general description of this method, see JOHN C. SAINSBURY, *COMMERCIAL FISHING METHODS* 25-93, (1986).

35. STEPHEN CUNNINGHAM ET AL., *FISHERIES ECONOMICS: AN INTRODUCTION* 66 (1985).

36. Total subsidies to fleet operations were estimated at 54 billion U.S. dollars in 1993. "Such subsidies have enabled these fleets to continue operations when, under normal circumstances, such operations would not have been financially viable." *High Seas Fisheries Aspects*, *supra* note 2, at 9.

moved.<sup>37</sup> Too many vessels are competing for too few fish, giving rise to a classic example of "the tragedy of the commons."<sup>38</sup>

Increased competition has in turn bred violent conflict. In 1994, a Russian gunboat fired on Japanese fishermen.<sup>39</sup> Later that year, an Icelandic trawler and Norwegian coast guard vessel exchanged fire.<sup>40</sup> In March of 1995, a Spanish fishing vessel, the ESTAI, was taking Greenland halibut in a high seas area.<sup>41</sup> Canada, believing that the vessel was overfishing, arrested the captain, locked up the crew, and towed the vessel to a Canadian port.<sup>42</sup> The European Union (EU) has called the arrest, which was pursuant to a controversial Canadian law, an act of international piracy.<sup>43</sup>

### C. STRADDLING STOCKS AND HIGHLY MIGRATORY SPECIES

Straddling stocks and highly migratory species attract a disproportionate amount of this intense competition. The biological distinction between the two may be tenuous at times,<sup>44</sup> but the terms are generally useful. Straddling stocks are those fish stocks which straddle the jurisdictional lines of coastal nations' EEZs.<sup>45</sup> Highly migratory species migrate through high seas and state EEZs during their life cycle.<sup>46</sup>

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37. *Id.* Annual operating costs of the world fleet in 1989 exceeded revenues by 22 billion, without even taking capital outlays into account. U.N. FOOD AND AGRICULTURAL ORGANIZATION, *supra* note 2, at 11.

38. Nations have historically viewed fish stocks as common property, although recent international regulation has modified this view. An open harvest on a common property resource often leads to irrational exploitation of the resource because no state can be assured that other states will in turn harvest rationally. See GREENBERG, *supra* note 12, at 375.

39. Maddox, *supra* note 4, at 4.

40. *Id.*

41. *Background Note on EU-Canada Fisheries Relations*, THE REUTER EUR. COMMUNITY REP., Mar. 10, 1995.

42. *Id.*

43. *Id.*

44. "For example, the Chilean horse mackerel, which straddles 1,500 miles off the exclusive economic zones of Chile and Peru, is a particular case of a straddling stock that might, from the biological standpoint, be as highly migratory in nature as some of the smaller tuna listed in the 1982 [Law of the Sea] Convention." *High Seas Fisheries Aspects*, *supra* note 2, at 4.

45. *Id.* at 3. A stock may also straddle two neighboring EEZs.

46. Highly Migratory Species include "9 species of tuna, 12 species of billfish, 2 tuna-like species, 4 species of sauries, pomfrets, dolphin fish, oceanic sharks and cetaceans." *High Seas Fisheries Aspects*, *supra* note 2, at 7.



## 1. Straddling Stocks

The peculiar geography of straddling stocks makes them especially susceptible to overfishing. Under the current UNCLOS regulatory scheme, coastal nations may set allowable catches of stock in their EEZ.<sup>47</sup> If the coastal nation has the capacity to harvest this amount itself, it may exclude fishing by distant water fishing nations (DWFNs).<sup>48</sup> Consequently, DWFNs often escape the effects of UNCLOS and coastal state regulation by harvesting the same fish stocks just outside the EEZ.<sup>49</sup> In the last decade, the proportion of catches taken beyond 200 nautical miles has doubled.<sup>50</sup> As coastal stocks diminish, DWFN's have an even greater incentive to exploit high seas stocks.<sup>51</sup>

Straddling stocks are distributed throughout the world's oceans.<sup>52</sup> Some of these fisheries are being harvested within safe limits,<sup>53</sup> but nearly all stocks suffer from a lack of reliable data both as to the extent of their numbers and the rate at which they are being harvested.<sup>54</sup> In particular, those straddling stocks which do not abut continental shelves are poorly understood.<sup>55</sup>

International controversy in two of the world's pollack fisheries illustrates the problems confronted when political boundaries do not reflect the biological realities of stock habitat. The "Donut Hole", an area of high seas covering 661,000 square miles in the Bering sea, yielded a three million ton annual catch

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47. UNCLOS, *supra* note 17, art. 62.

48. *Id.*

49. Jill Vardy, *An Uneasy Calm: A Stormy Week of High Seas Manoeuvres with Spain Closes with Agreement on Broad Principles on Turbot Fishing, but Brian Tobin is not Letting Down his Guard*, FIN. POST, Apr. 1, 1995, at 13.

50. *High Seas Fisheries Aspects*, *supra* note 2, at 2. Total marine production taken beyond coastal EEZs has increased from five to ten percent. *Id.*

51. William Emerson, *Hitting the High Seas*, OECD OBSERVER, Aug. 18, 1995, at 33.

52. In the Atlantic, significant straddling stocks include cod, haddock, Greenland halibut, oceanic redfish and hakes, among others. *High Seas Fisheries Aspects*, *supra* note 2, at 6. In the Pacific, another principal species includes orange roughy, which requires special care because of its late maturity (20-25 years). *Id.* at 5.

53. Blue Whiting, for example, saw heavy rates of harvest in the late 1970s but is now being exploited "within safe biological limits." *Id.*

54. U.N. FOOD AND AGRICULTURAL ORGANIZATION, *supra* note 22, at 10.

55. *Id.* High seas fish stocks may be described as *neritic* or *oceanic*. *Id.* at 3. Neritic stocks are confined to continental shelf and slope areas, *id.*, while oceanic stocks live farther out on the "abyssal plain." *Id.* at 4-5. Oceanic populations are very diffuse and therefore difficult to study accurately. *Id.* at 5.

of pollack for years.<sup>56</sup> High seas fishing of these stocks by Japan, South Korea, China, Poland and Panama just outside the U.S. and Russian EEZs reduced this take to only 50,000 tons in 1993.<sup>57</sup> In the Sea of Okhotsk, the EEZ of the Russian Federation completely surrounds an area of high seas dubbed the "Peanut Hole". DWFN exploitation of pollack (a straddling stock) in the Peanut Hole tempted Russia to extend its jurisdiction beyond its EEZ, thus closing off the enclave.<sup>58</sup> Such an extension would have violated UNCLOS and perhaps set a precedent that other coastal nations would follow.<sup>59</sup> Thus, the geography of straddling stocks poses a unique challenge to international regulatory schemes.

## 2. Highly Migratory Species

Highly migratory species are often caught on the high seas, far beyond the jurisdiction of coastal states.<sup>60</sup> Since verification is difficult, willing states find it easy to misreport catches.<sup>61</sup> The nations which fish for tuna, for example, rarely report catch statistics to surveillance organizations such as the FAO.<sup>62</sup> Misreported catches often come from vessels which fish under the authority of foreign countries.<sup>63</sup> Vessels often choose foreign flags for their permissive regulatory rules and then fish under them as "flags of convenience."<sup>64</sup>

As with straddling stocks, the current regulatory system for highly migratory species is largely ineffective. Nations have fished several of the most commercially valuable species beyond

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56. Vardy, *supra* note 49, at 13. The area of international waters encircled by the Russian and U.S. EEZs form the hole of the donut.

57. *Id.*

58. Goltz, *supra* note 32, at 451. Russia need only extend its jurisdiction by 18 miles to control the entire Sea of Okhotsk. *Id.* at 450, n.33.

59. *Id.* at 451. The Russian Federation subsequently imposed a fishing moratorium of dubious timing and efficacy, as Russian scientists now predict a collapse of that fishery by 1996. Vardy, *supra* note 49.

60. The fleets that pursue tunas, for example are "truly international in character and are highly mobile between fishing grounds." *High Seas Fisheries Aspects*, *supra* note 2, at 7.

61. U.N. FOOD AND AGRICULTURAL ORGANIZATION, *supra* note 22, at 24. For example, in 1991 Panama reported a catch of 17,700 tons for 444 vessels registered. *Id.* Venezuela reported 82,800 tons caught for 80 vessels in the same year. *Id.*

62. *Id.* Only five of the top sixteen tuna-catching countries reported catch statistics to the FAO in 1991. *Id.*

63. *Id.*

64. *Id.*

sustainable levels or to depletion.<sup>65</sup> Instead of cooperating to conserve migratory resources, many coastal states have entered into irrational licensing agreements with DWFNs which exploit these species once they are within the coastal nation's EEZ.<sup>66</sup> The result, as with straddling stocks, is a declining resource base.

## II. UNCLOS AND THE NEW ERA OF INTERNATIONAL REGULATION

In 1982, the United Nations introduced the Convention on the Law of the Sea, which proposed a regulatory and conservation scheme for the world's oceans.<sup>67</sup> The ratification of UNCLOS took over ten years; it finally became effective in November of 1994.<sup>68</sup> Some observers consider UNCLOS to contain "the most comprehensive and progressive international environmental law of any modern international agreement."<sup>69</sup> Under the new regime, all states have an obligation to protect and preserve the marine environment.<sup>70</sup>

UNCLOS specifically addresses the problems associated with vulnerable fish stocks.<sup>71</sup> On the best scientific evidence available, it directs states to maintain or restore high seas stocks at levels which will produce the "maximum sustainable yield."<sup>72</sup> Within the EEZ, however, coastal states must observe the higher standard of "optimum utilization" of living resources.<sup>73</sup>

Two provisions of UNCLOS address the narrow issues of straddling stocks and highly migratory species. Article 63 directs coastal states and DWFNs to negotiate with one another over the proper allocation of straddling stocks, both within an

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65. *Id.* Those exploited beyond maximum sustainable levels include northern bluefin in the Mediterranean and albacore in the South Atlantic. *High Seas Fisheries Aspects*, *supra* note 2, at 8. Northern and southern bluefin in the Atlantic Ocean are considered depleted. *Id.*

66. *Id.* at 7.

67. *See supra* note 17.

68. Jonathan I. Charney, *The Marine Environment and the 1982 United Nations Convention on the Law of the Sea*, 28 INT'L LAW. 879, 882 (1994).

69. *Id.*

70. UNCLOS, *supra* note 17, art. 192, at 1308.

71. *Id.* art. 63-64, at 1281.

72. *Id.* art. 119(1), at 1290.

73. *Id.* art. 62(1), at 1281. "Thus, in the EEZ the coastal state has the obligation to manage fisheries to promote the optimum utilization of the living resources by taking into account a wide variety of conservation, environmental, and economic factors that extend well beyond the mere maximization of the production of a particular fish stock." Charney, *supra* note 68.

EEZ and beyond it.<sup>74</sup> Article 64 imposes a duty upon fishing nations to cooperate toward the optimum utilization of highly migratory species.<sup>75</sup> Thus, with respect to these vulnerable stocks, UNCLOS envisions an era of international negotiation and cooperation in which states come to terms with their respective needs and the demands of a sensible harvest.

Although requirements such as "international cooperation" and the "obligation to protect and preserve" are arguably unenforceably vague, UNCLOS does have settlement provisions in the event of a dispute. When parties reach an impasse, UNCLOS allows for binding arbitration.<sup>76</sup> Any party to a dispute may request that a tribunal hear a question of interpretation or application of UNCLOS.<sup>77</sup> Where international law requires, however, parties must first exhaust local remedies.<sup>78</sup>

Without supplementation, this enforcement regime may prove ineffective. UNCLOS does not guarantee any substantive rights in disputes between coastal states and nations fishing vulnerable stocks on the high seas. Instead, it demands only that they reach an agreement and cooperate without providing any incentives to compel this result. A tribunal may decide that a fishing nation has violated its obligation to protect and preserve the living resources of the sea, but the vagueness of this duty in a vacuum of precedent serves as no duty at all.

### III. THE AGREEMENT FOR THE CONSERVATION OF STRADDLING FISH STOCKS AND HIGHLY MIGRATORY SPECIES

UNCLOS fisheries provisions have been bolstered by recent action at the United Nations.<sup>79</sup> The Agreement for the Conser-

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74. *UNCLOS*, *supra* note 17, art. 63(2), at 1282.

75. *Id.* art. 64(1), at 1282.

76. *Id.* part XV § 2, at 1322. See also the many limitations on this procedure. *Id.* part XV § 3, at 1324.

77. *Id.* art. 286, at 1322. At the time a state ratifies the Convention, it indicates its preferred forum for dispute settlement. *Id.* art. 287(1), at 1322-23. A signatory may choose from a number of options: the International Tribunal for the Law of the Sea, the International Court of Justice or a series of special tribunals. *Id.*

78. *Id.* art. 295, at 1324.

79. *The Agreement*, *supra* note 5. The U.N. Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks recently submitted the Agreement for ratification by individual states. *100 Nations Adopt Fishing Treaty to Regulate Ocean Fishing*, CHI. TRIB., Aug. 6, 1995, at 4. The U.N. General Assembly opened the Agreement for signature on December 4, 1995. To become effective it will require ratification by at least 30 countries. *The Agreement*, *supra* note 5, arts. 37, 40(1).

vation of Straddling Fish Stocks and Highly Migratory Species proceeds within the legal framework of UNCLOS and implements the more general fisheries provisions.<sup>80</sup> It provides a focused and detailed attempt to address the specific problems posed by vulnerable stocks. The efficacy of the UNCLOS regime, however, depends on its ability to administer a more substantive and enforceable bill of harvesting rights and obligations.

#### A. SUBSTANTIVE RIGHTS AND OBLIGATIONS UNDER THE AGREEMENT

The Agreement resolves "to ensure the long-term conservation and sustainable use of straddling fish stocks and highly migratory fish stocks through effective implementation of the relevant provisions of the Convention [UNCLOS]."<sup>81</sup> Thus the Agreement is consistent with UNCLOS, functioning as a more refined means through which the general provisions of UNCLOS will operate. In fact, the Agreement directly incorporates by reference provisions of UNCLOS in a number of areas.<sup>82</sup>

The Agreement's provisions apply to vessels fishing the high seas.<sup>83</sup> Its overriding purpose is to establish an era of international cooperation among high seas vessels and coastal states.<sup>84</sup> It is not surprising therefore that many of the obligations under the Agreement are bound up in its elaboration of the term "cooperation."

The duties of cooperation are described with more specificity in the Agreement than in UNCLOS. For example, under the "precautionary approach,"<sup>85</sup> states must develop precautionary "reference points" of two sorts: a limit reference point and a target reference point.<sup>86</sup> A limit reference point identifies the "safe biological limits within which fish stocks can produce maximum sustainable yield."<sup>87</sup> Target reference points are those limits a

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80. *The Agreement*, *supra* note 5, preamble.

81. *Id.* art. 2.

82. *See, e.g., id.* art. 30(3) (incorporating by reference article 287 of UNCLOS for purposes of dispute resolution).

83. *Id.* art. 3(1). Articles 6 and 7 also apply to waters under the jurisdiction of coastal states. *Id.*

84. *See generally id.* art. 5 (stating that general principles were implemented with an end toward *conserving and managing* straddling fish stocks).

85. *Id.* art. 5(c). *See also id.* at Annex II.

86. *Id.* art. 5(c); Annex II, para. 2.

87. *Id.* "The fishing mortality rate which generates maximum sustainable yield should be regarded as a *minimum standard* for limit reference points." *Id.* at Annex II, para. 7 (emphasis added).

reasonable management scheme would allow.<sup>88</sup> States must take measures to assure that these points are not exceeded.<sup>89</sup> In the event that the limits are exceeded, states shall take action to restore the stocks without delay.<sup>90</sup>

The duty to cooperate also includes a number of interrelated provisions that require valid scientific surveys of the stocks.<sup>91</sup> In order to maintain long-term stability of vulnerable fisheries, states must "promote and conduct scientific research and develop appropriate technologies in support of fishery conservation and management."<sup>92</sup> Participating states must also keep detailed statistics of total catches by fleet,<sup>93</sup> including records of length, weight, and sex.<sup>94</sup> These provisions reflect the belief of the Conference that competent compilation and analysis of data is fundamental to conserving and managing vulnerable fish stocks.<sup>95</sup>

Finally, the Agreement considers species other than those with commercial value. States are obligated to minimize the harvest of non-target species incidentally caught with commercially important fish.<sup>96</sup> States must also assess the impact of activities other than fishing on these non-target stocks.<sup>97</sup> The Agreement specifically calls for actions to protect endangered species,<sup>98</sup> but limits these measures "to the extent practicable."<sup>99</sup>

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88. The Agreement states only that target or management reference points are those "intended to meet management objectives". *Id.* at Annex II, para. 2.

89. *Id.* art. 6(4).

90. *Id.*

91. *Id.* art. 14(1)(a).

92. *Id.* art. 5(k). *See also id.* at Annex I (describing the general principles behind the collection and sharing of data).

93. *Id.* at Annex I, art. 3(1)(a).

94. *Id.* at Annex I, art. 3(2)(a).

95. The U.N. Conference on Straddling Stocks and Highly Migratory Species believed that in order to give effect to UNCLOS, states must cooperate toward "the effective contribution and timely exchange of scientific information. . . in order to ensure that the best scientific evidence available is used for management decisions." *A Guide to the Issues before the Conference Prepared by the Chairman*, Conference on Straddling Stocks and Highly Migratory Fish Stocks, at 5, U.N. Doc. A/CONF.164/10 (1993).

96. *The Agreement*, *supra* note 5 art. 5(f).

97. *Id.* art. 5(d).

98. *Id.* art. 5(f).

99. *Id.*

## B. MECHANISMS FOR INTERNATIONAL COOPERATION

Regional and subregional fisheries management organizations play primary roles in the Agreement's regulatory scheme.<sup>100</sup> All parties to the Agreement must either pursue cooperation through one of these organizations or negotiate directly with one another to establish conservation and management programs.<sup>101</sup> The incentive to gain membership in an established fisheries organization is great, however, because only members of such an organization have access to the covered fishery.<sup>102</sup>

The organizations will perform many critical functions. They will establish conservation and management schemes as members agree on catch limits<sup>103</sup> and apply any "international minimum standards for the responsible conduct of fishing operations."<sup>104</sup> The regional organizations will also conduct many of the scientific evaluations of straddling stocks and migratory species and assess the impact of fishery practices on them.<sup>105</sup> The organizations must also act affirmatively to ensure that disputes among its members are settled peacefully.<sup>106</sup> The efficacy of the entire Agreement depends substantially on the ability of the regional organizations to fulfill the role envisioned for them.

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100. Examples of regional fisheries organizations include: the Northwest Atlantic Fisheries Organization (NAFO), the International Commission for the Conservation of Atlantic Tunas (ICCAT), and the North-East Atlantic Fisheries Commission (NEAFC). As their names suggest, they have jurisdiction over regional fishing areas, assuming this power through the consent of their members. See generally CUNNINGHAM, *supra* note 35, at 179-96 (describing the regimes of four regional fisheries organizations).

101. *The Agreement*, *supra* note 5, art. 8(1).

102. *Id.* art. 8(4). A nonmember state may fish in the area covered by such an organization if it agrees to apply the conservation and management measures established by the organization. *Id.* This exception is unlikely to do any harm to the incentive, because nonmember states will presumably want to affect conservation and management provisions that will apply to it in any event. Cf. *id.* art. 17(2) (stating that nonmembers of organizations and nonparticipants in the arrangements of the organizations "shall not authorize vessels flying its flag to engage in fishing operations for the straddling fish stocks or highly migratory fish stocks which are subject to the conservation and management measures. . .").

103. Catch limits or allocations of allowable catches will not be set as a matter of course but rather will be agreed on "where appropriate." *The Agreement*, *supra* note 5, art. 10(b).

104. *Id.* art. 10(c).

105. *Id.* art. 10(d)-(g).

106. *Id.* art. 10(k).

## C. ENFORCEMENT PROVISIONS

Regional fisheries organizations often fail to prevent declines in stocks because of a lack of fundamental enforcement power. To remedy this, the Agreement provides a number of unique enforcement provisions. Among the most prominent are provisions obligating a state to investigate when a party alleges that one of its flagships has violated a regional conservation measure.<sup>107</sup> Both the accusing state and the regional organization are entitled to a report of the progress and outcome of the investigation.<sup>108</sup> Further, the flag state must impose sanctions severe enough to deter such future conduct.<sup>109</sup>

Although these duties may lead to greater cooperation among fishing states, regulations may only be enforced where violations are detected. This problem leads to perhaps the most ambitious of the Agreement's provisions: parties may board and inspect foreign vessels to ensure compliance with conservation measures.<sup>110</sup> Boarding parties must report to the flag state any violations found.<sup>111</sup> The flag state must then initiate an investigation, or authorize the boarding state to do so itself.<sup>112</sup>

When there are clear grounds for believing that a vessel has committed a serious violation, even more stringent measures may apply.<sup>113</sup> If the flag state does not respond appropriately, the inspectors may secure any and all evidence of the violation

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107. *Id.* art. 19(1)(b).

108. *Id.* In fact, *all* states having an interest in the violation have a right to information on the progress of the investigation. *Id.* art. 20(3).

109. *Id.* art. 19(2). The sanctions must be severe enough to deprive the transgressor of any benefit that might have resulted from the violation. *Id.* Where the vessel's master or officers are found to be among the offending parties, the Agreement encourages suspension of their authorizations to serve in such a capacity. *Id.*

110. *Id.* art. 21(1). In fact, the flag state need not be a member of the regional organization whose conservation measures the boarding state wishes to enforce (as long as it is a party to the agreement). *See id.* A state party to the Agreement may board any vessel of a state also party to the Agreement. *Id.* These boarding provisions are not completely unique, however. *See infra* text accompanying note 128.

111. *The Agreement*, *supra* note 5, art. 21(5).

112. *Id.* art. 21(6).

113. *Id.* art. 21(11). The Agreement gives a non-exclusive list of violations that states will recognize as "serious." These include: (1) fishing without a valid authorization; (2) failure to maintain accurate records or misreporting catches; (3) fishing in a closed area; (4) fishing for a prohibited stock; (5) using prohibited gear; (6) falsifying the identification of a vessel; (7) tampering with evidence relating to an investigation. *Id.*



and direct the vessel to the nearest port.<sup>114</sup> If the flag state agrees to take over the investigation, it may simply command the release of the vessel.<sup>115</sup>

The Conferees evidently felt strongly that boarding provisions are necessary for the Agreement's enforceability. Regional organizations must augment the general freedom to board and inspect vessels with specific boarding procedures.<sup>116</sup> Unwilling to wait while states move grudgingly toward this augmentation (and stocks consequently dwindle), the Agreement forces them to make a choice: either have such procedures in place within two years, or they will be provided.<sup>117</sup> Many of the details of these procedures may prove undesirable to states, including the use of force where appropriate.<sup>118</sup> This may act as an impetus for state involvement and encourage speedy implementation of boarding procedures.

Despite the mandatory language and default rules provided in this part of the Agreement, the Conferees allowed regional organizations to weaken the boarding provisions in some instances.<sup>119</sup> Where the Agreement's obligations are met by some "alternative mechanism," a regional organization may apply the boarding provisions solely among its members.<sup>120</sup> This may undercut the incentive to membership. It is also possible, however, that the Agreement is allowing a degree of flexibility that will be needed as the composition and vulnerability of stocks change over time.

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114. *Id.* art. 21(8). The inspecting state must immediately inform the flag state of the vessel's port destination. *Id.* "The inspecting State and the flag State and, as appropriate, the port State shall take all necessary steps to ensure the well-being of the crew regardless of their nationality." *Id.*

115. *Id.* art. 21(12). The inspecting state must release the vessel along with any pertinent information regarding the investigation. *Id.*

116. *Id.* art. 21(2).

117. *Id.* art. 21(3). Article 22 of the Agreement provides procedural guidelines for the implementation of the boarding and inspection provisions. *Id.* art. 22.

118. *Id.* art. 22(1)(f). Force is appropriate when it is necessary to ensure the safety of the inspectors. *Id.* Other important procedural details include the duty of the vessel master to provide the inspectors with facilities, and allow inspection of documents, records, equipment, etc. *Id.* art. 22(2)-(3).

119. *Id.* art. 21(15).

120. *Id.*

#### IV. ASSESSMENT OF THE AGREEMENT'S EFFECTIVENESS

If the Agreement is to breathe any life into UNCLOS, the regional organizations must provide the resuscitation. The Agreement relies on these organizations to establish most of the regional rules, surveillance procedures, and enforcement measures. The enforceability and effect of the new regime will depend on three factors: (A) states must cooperate through regional organizations to establish effective rules; (B) regional organizations must implement monitoring systems to ensure compliance with local rules; and (C) sanctions must be applied when violations are detected. If these responsibilities are not fulfilled, the Agreement's reforms will be effectively neutralized.

##### A. COOPERATION THROUGH REGIONAL ORGANIZATIONS AND INDEPENDENT AGREEMENTS

###### 1. Regional and Subregional Organizations

Due to the controversies arising in its area of jurisdiction, the Northwest Atlantic Fisheries Organization (NAFO) has been extremely visible over the past few years.<sup>121</sup> NAFO manages ten important fish stocks, seven of which straddle the Canadian EEZ.<sup>122</sup> Given its prominent role in attempting to foster cooperation among member states, NAFO illustrates whether reliance on such organizations will ensure rational harvests.

Under the Agreement, NAFO will perform several regulatory functions, including setting total allowable catches for its member states.<sup>123</sup> NAFO has been setting quotas for years, however, and has had difficulty enforcing them. For example, from 1986 to 1992, the EU reported cod catches of five times the

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121. NAFO is the successor to the International Commission on Northwest Atlantic Fisheries (ICNAF). Bruce N. Shibles, *Implications of an International Legal Standard for Transboundary Management of Gulf of Maine-Georges Bank Fisheries Resources*, 1 OCEAN & COASTAL L.J. 1, 3 n.10 (1994). Its members include Canada, Cuba, the European Economic Community, Norway, Portugal, Germany, Iceland, Spain, the Russian Federation, Bulgaria, Denmark, Japan, Poland, Romania, Estonia, Latvia, and Lithuania. *Id.*

122. The straddling stocks include Grand Banks cod, three Grand Banks flounder, Grand Banks redfish, capelin, and squid. The NAFO high seas stocks are in an area known as the Flemish Cap and consists of cod, redfish, and American plaice. *NAFO Scientists Agree on Threat to Northern Cod*, Canada NewsWire, June 6, 1992, available in WESTLAW, CanWireplus Database.

123. See *supra* note 103 and accompanying text.

NAFO quota.<sup>124</sup> For flounder, it exceeded quotas by a factor of eighteen.<sup>125</sup> When NAFO prohibited member states from harvesting ocean perch in 1991, the EU set a quota of 6,000 tons for its fleets and reported a total catch of 10,000 tons.<sup>126</sup> Other regional organizations have had similar difficulty gaining the compliance of members with respect to fishing quotas.<sup>127</sup>

NAFO also has boarding provisions similar to those found in the Agreement. Under the scheme of Joint International Inspection and Surveillance, any member state may inspect the vessels of other members.<sup>128</sup> The open sea investigations are followed by dockside inspections. The apparently tough surveillance provisions in the Agreement, therefore, do not go beyond existing measures for those states operating in the NAFO regulatory area.

Many of NAFO's problems stem from its consensual nature.<sup>129</sup> A NAFO decision does not apply to any member that files an objection to the measure within sixty days.<sup>130</sup> The EU,

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124. *Canadian Fish Stocks Decimated; Canada Itself Shares the Blame; Cod and Flatfish; Industry Overview*, QUICK FROZEN FOODS INT'L, Jan. 1994, available in WESTLAW, Allnewsplus Database.

125. *Id.*

126. Debora McKenzie, *UN Could Step in to Stop Fights Over Fish; Fisheries Disputes in International Waters*, NEW SCIENTIST, Jan. 9, 1993, at 9.

127. In 1993, the International Council for Exploration of the Sea (ICES) suggested that Norway and Russia limit their catch of herring to 125,000 tons. By the end of the year, these two countries had taken 195,000 tons. *Id.* ICCAT also reports stock depletion through over-fishing by its members. Maddox, *supra* note 4, at 4.

128. *Background Note on EU-Canada Fisheries Relations*, *supra* note 41. The boarding rights have been exercised; in 1994, inspectors boarded EU vessels 430 times on an average of 45 vessels. *Id.*

129. The Convention under which NAFO operates states:

1. Upon notice of a regulatory proposal by the Fisheries Commission [of NAFO] . . . The proposal shall then become a measure binding on all Contracting Parties, except those which have presented objections, at the end of the extended period or periods for objecting . . .

. . . .

3. At any time after the expiration of one year from the date on which a measure enters into force, any Commission member may give to the Executive Secretary notice of its intention not to be bound by the measure, and, if that notice is not withdrawn, the measure shall cease to be binding on that member . . . .

Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries, art. XII (1978) (as amended 1979) (on file with the *Minnesota Journal of Global Trade*).

130. *Id.*

for example, justifies much of its noncompliance by noting its timely objection to NAFO quotas.<sup>131</sup>

It is unclear how the Agreement will affect this procedural system. Clearly, enforcement measures will be taken quickly against a single renegade vessel.<sup>132</sup> When a member state refuses to comply with a local rule, however, it may simply raise an objection in a timely manner. The state has already fulfilled its primary obligation under the Agreement by joining a regional organization.<sup>133</sup> Other member states are then left to litigate the issue of whether the state has fulfilled its duty to "cooperate" in conservation and management.<sup>134</sup> But this is precisely where UNCLOS left things: unenforceably vague.

## 2. Independent State Cooperation

Instead of joining a regional fisheries organization, states may fulfill their duty to cooperate by negotiating directly with other fishing nations.<sup>135</sup> States have always had this power,<sup>136</sup> but the condition of world fisheries demonstrates that they have exercised it with mixed results.

In 1984, for example, the International Court of Justice defined the maritime boundary between the United States and Canada in the Gulf of Maine.<sup>137</sup> Since the demarcation resulted

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131. The EU believes that Canada, another NAFO member, has exercised undue influence on that organization and acted unfairly toward the EU. *Background Note on EU-Canada Fisheries Relations*, *supra* note 41. For example, in 1994, the EU accepted NAFO's decision to limit the take of Greenland halibut to 27,000 tons. *Id.* In February of 1995, the EU claimed that Canada forced a second vote allocating the EU only 3,400 tons, contravening the EU's right to object. *Id.* The EU consequently plans on setting an autonomous limit. *Id.*

132. See *supra* notes 110-11 and accompanying text.

133. *The Agreement*, *supra* note 5, art. 8(1).

134. *UNCLOS*, *supra* note 17, art. 63-64. Note, however, that article 17 provides that a state may not allow vessels flying its flag to fish the straddling or migratory stocks under the jurisdiction of the regional organizations if that state "is not a participant in a subregional or regional fisheries arrangement, and which does not otherwise agree to apply the conservation or management measures established by such an organization." *Id.* art. 17(1)-(2).

It is difficult to see what this means for organizations such as NAFO. Does the Agreement effectively alter the constitution of consensual organizations whose members are all parties to the Agreement? The two must be reconciled in some manner.

135. *Id.* art. 8(1).

136. See, e.g., *Canada-EU Reach Agreement to Conserve and Protect Straddling Stocks*, Canada NewsWire, Apr. 15, 1995, available in WESTLAW, CanWireplus Database.

137. *Case Concerning the Delimitation of the Maritime Boundary in the Gulf of Maine Area (Can. v. U.S.)*, 1984 I.C.J. 246 (Oct. 12).

in stocks that straddled the two nations' EEZs, many observers expected the United States and Canada to enter into a new era of independent cooperation.<sup>138</sup> Instead, seven years passed before the parties introduced a shared management agreement.<sup>139</sup> The conservation measure came too late, however, and stock depletion forced the United States to close the Georges Bank fishery shortly thereafter.<sup>140</sup>

In the troubled pollack fisheries, bilateral negotiations have proved to be ineffectual as well. During the Bering Sea conflict,<sup>141</sup> the United States and the Russian Federation agreed to suspend fishing in the EEZs surrounding the high seas Donut Hole, but vessels from DWFNs fished the area to collapse.<sup>142</sup> This failure came despite numerous meetings including seven multilateral conferences.<sup>143</sup> After depleting the Donut Hole fishery, the DWFNs proceeded to the Sea of Okhotsk and resumed fishing.<sup>144</sup> The Russian Federation initiated negotiations, but declining stocks forced them to issue a general moratorium.<sup>145</sup> Nonetheless, experts predict the collapse of this fishery as well.<sup>146</sup>

Given the tragic results of recent direct negotiation, this option is unlikely to promote the Agreement's conservation goals. Perhaps the Agreement foresees states conferring *in anticipation* of future conflict, instead of the ad hoc cooperation that occurs after a fisheries decline is discovered. But again, states could cooperate directly in the absence of the option. Thus, the provisions for direct negotiation may serve only to allow an indifferent state to avoid the strictures of a regional organization.

## B. DETECTION OF VIOLATIONS

For states that choose to become members of a regional organization, many enforcement provisions apply. The Agreement recognizes that its effectiveness depends on the detection of violations. Member states must therefore "implement and enforce conservation and management measures through effective mon-

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138. Shibles, *supra* note 121, at 1.

139. *Id.* at 2.

140. See *supra* note 31 and accompanying text.

141. See *supra* notes 56-57 and accompanying text.

142. *United Nations Conference on Straddling Stocks and Highly Migratory Fish Stocks*, *supra* note 27, para. 2-3, at 1.

143. *Id.* para. 7, at 2.

144. *Id.*

145. *Id.*

146. Vardy, *supra* note 49, at 13.

itoring, control, and surveillance."<sup>147</sup> But the detection scheme implemented by the Agreement may fail to solve current monitoring problems.

The Agreement's boarding provisions, for example, fail to do more than duplicate ineffective portions of existing schemes.<sup>148</sup> DWFNs also have significant financial incentive to thwart boarding authorities. Coastal nations have often accused DWFN vessels of concealing excessive catch in false holds.<sup>149</sup> Therefore, the effectiveness of boarding surveillance depends heavily upon the skills of the investigators.

Obviously, regional organizations cannot board a vessel suspected of violating local rules if the whereabouts of the vessel is unknown. They must know when a vessel enters a closed area and when it fishes straddling stocks on the high seas. A system that maps the location of vessels would facilitate conservation through general deterrence alone.

Since the late 1980s, the United States has used a satellite monitoring system to locate DWFNs in the North Atlantic.<sup>150</sup> Each monitored vessel must carry a transmitter which runs off a shipboard 12-volt battery.<sup>151</sup> The satellite sends a signal to a computer that plots the position of vessels.<sup>152</sup> The system monitored 775 vessels in 1990 to ensure compliance with local restriction; the United States proclaimed it a "huge success."<sup>153</sup>

The satellite monitoring systems hold a great deal of promise for troubled fisheries. Unfortunately, such systems are cost prohibitive for general application.<sup>154</sup> As this technology advances, such systems also become quickly obsolete, leading to greater costs as regional organizations strive to maintain the best methods of surveillance. For endangered areas such as the

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147. *The Agreement* at art. 5(1). See also *id.* arts. 10(h), 18(g).

148. See *supra* text accompanying note 128.

149. See, e.g., *EU-Canada: Tensions Rise Again Over Fish in North Atlantic*, EUR. REP., Mar. 29, 1995.

150. *United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, Monitoring High Seas Vessel Operations by Satellite; Submitted by the Delegation of the United States*, para. 1, at 1, U.N. Doc. A/CONF.164/L.17 (1993).

151. *Id.* para. 7, at 2.

152. There are actually several systems available: the Argos system (described above), the International Maritime Satellite Organizations standard -C/ GPS (global positioning system), and HF Radio/GPS. *Id.* at 2-3, para. 9.

153. *Id.* para. 5-6, at 2.

154. The United States estimates vessel-tracking-only hardware at \$5,000 to \$8,000. Estimates for cost of vessel-position reports are \$500 to \$1000 per year per vessel. *Id.* para. 16-17, at 4.

Sea of Okhotsk, however, such cost-intensive technology may make the difference between a depleted fishery and a viable one.

### C. SANCTIONS

For the Agreement to be effective, parties must utilize aggressive sanctions. When a state detects a violation by a vessel flying its flag, it must apply sanctions "adequate in severity to be effective in securing compliance. . . and shall deprive offenders of the benefits accruing from their illegal activities."<sup>155</sup> Since the flag state itself ordinarily controls the licensing of such a vessel, it may revoke or restrict that license.<sup>156</sup> This threat should deter those vessels which do not wish to reflag.

Some violations, however, occur with the express or implied permission of a flag state. For example, a nation may choose to disregard the quota allocated by a regional organization. The EU's disregard of NAFO's quotas illustrates this point.<sup>157</sup> The consensual nature of organizations such as NAFO thus has the potential to undercut the organization's own sanctions.<sup>158</sup> If a state objects to a regional organization's rules, however, a party may apply to a tribunal for relief, such as the International Court of Justice.<sup>159</sup> Whether the sanctions available under the Agreement would be the same as those enforced by the regional organization is unclear in the Agreement, and has not yet been resolved by a tribunal. Thus the Agreement's power of deterrence is unlikely to be determined for some time.

## V. CONCLUSION

The new straddling stocks Agreement solidifies UNCLOS in a number of important ways. The provisions of the older Law of the Sea may work well as a general framework, but the fisheries rights and duties it established are far too vague to be enforceable. The new Agreement purports to remedy this problem. It

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155. *The Agreement*, *supra* note 5, at art. 19(2). Sanctions *must* include provisions which permit "refusal, withdrawal, or suspension of authorizations to serve as masters or officers on such vessels." *Id.*

156. The flag state does give up some autonomy with respect to licensing when it signs the agreement. "Measures to be taken by a State in respect of vessels flying its flag shall include: (a) control of such vessels on the high seas by means of fishing licenses, authorizations or permits, in accordance with any applicable procedures agreed at the subregional, regional or global level . . . ." *Id.* at art. 18(3).

157. See *supra* text accompanying notes 123-27.

158. See *supra* text accompanying notes 129-31.

159. See *supra* note 77 and accompanying text.

utilizes regional and subregional organizations that are charged with creating the substance of international fisheries law. The effectiveness of the organizations will determine the efficacy of the Agreement as a whole.

Although the regional organizations have developed some successful conservation schemes, they have also had some noteworthy failures. Quotas have been allocated and routinely ignored. The consensual nature of these organizations lies at the heart of this problem, since members are often permitted to object and ignore the organization's regulations.

At best, the Agreement guides fishing states methodically toward conservation and management of rapidly diminishing fish stocks. The focus on regional organizations, despite its shortcomings, provides the flexibility necessary to confront the needs of each fishery. Strict adherence to enforcement mechanisms will lend the Agreement a credibility unique in this area. Finally, the weakening influence of the consensual procedure must be reduced or eliminated. Only then may the regional organizations direct their members toward a rational harvest of straddling fish stocks and highly migratory species.



